



SHILAP Revista de Lepidopterología

ISSN: 0300-5267

ISSN: 2340-4078

avives@orange.es

Sociedad Hispano-Luso-Americana de Lepidopterología
España

Guerrero, J. J.; Garre, M.; Rubio, R. M.; Hausmann, A.; Ortiz, A. S.

First record of *Idaea lobaria* Chrétien, 1909 from the
Iberian Peninsula (Lepidoptera: Geometridae, Sterrhinae)

SHILAP Revista de Lepidopterología, vol. 46, no. 183, 2018, April-June, pp. 451-454

Sociedad Hispano-Luso-Americana de Lepidopterología
España

Available in: <https://www.redalyc.org/articulo.oa?id=45560340007>

- How to cite
- Complete issue
- More information about this article
- Journal's webpage in redalyc.org

redalyc.org

Scientific Information System Redalyc

Network of Scientific Journals from Latin America and the Caribbean, Spain and
Portugal

Project academic non-profit, developed under the open access initiative

First record of *Idaea lobaria* Chrétien, 1909 from the Iberian Peninsula (Lepidoptera: Geometridae, Sterrhinae)

J. J. Guerrero, M. Garre, R. M. Rubio, A. Hausmann & A. S. Ortiz

Abstract

Idaea lobaria Chrétien, 1909 was described from specimens collected in Algeria. Here we report the first records for the fauna of Europe, based on specimens collected from the late June to early October in south-eastern Iberian Peninsula, in habitats characterised by dry and extremely warm ravines in the Murcia province (Spain).

KEY WORDS: Lepidoptera, Geometridae, *Idaea lobaria*, new records, distribution, Spain.

Primer registro de *Idaea lobaria* Chrétien, 1909 en la Península Ibérica (Lepidoptera: Geometridae, Sterrhinae)

Resumen

Idaea lobaria Chrétien, 1909 fue descrita con ejemplares colectados en Argelia. Aportamos la primera cita para la fauna de Europa, basada sobre especímenes colectados desde finales de junio hasta comienzos de octubre en el sureste de la Península Ibérica en hábitats caracterizados por ramblas secas y extremadamente cálidas en la provincia de Murcia (España).

PALABRAS CLAVE: Lepidoptera, Geometridae, *Idaea lobaria*, nuevos datos, distribución, España.

Introduction

Species occupying the southern half of the Iberian Peninsula and northern Morocco, extending further to northern Algeria and Tunisia, can be attributed to the Iberian-Maghrebian corotype while the Betic-Riffian corotype is used for species restricted to the mountains of the South of Iberian Peninsula and the Rif Mountains of northern Morocco, including the Sistema Central in Iberian Peninsula or the northern part of the Atlas Mountains (SERRANO *et al.*, 2003).

The subfamily Sterrhinae includes many species distributed in both areas as, for example, *Idaea sericeata calvaria* Wehrli, 1927, *I. ochrata albida* Zerny 1936, *I. nigrolineata* (Chrétien, 1911), *I. mustelata* (Gumpfenberg, 1892), *I. bigladiata* Herbulot, 1975, *I. nexata* (Hübner, 1813), *I. manicaria* (Herrich-Schäffer, 1852), *I. minuscularia* (Ribbe, 1912), *I. fractilineata* (Zeller, 1847), *I. incisaria* (Staudinger, 1892), *Cinglis andalusiarum* Wagner, 1935, *Rhodostrophia vibicaria strigata* Staudinger, 1871, *Cyclophora hyponoea* (Prout, 1935) and many others (HAUSMANN, 2004). Other species are only present in the Iberian Peninsula with single records in North Africa as *Idaea luteolaria* (Constant, 1863), *I. figuraria* (Bang-Haas, 1907), *I. simplicior* (Prout, 1934) and *Oar reaumuraria* (Millière, 1864), while *Cleta ramosaria* (Villers, 1789) is scarcely recorded on both sides of the Gibraltar Strait.

North African lepidopteran species are very often remaining undetected or overlooked in European collections due to lack of information since few species descriptions based on morphology

and genitalia are available. For example, *I. gelbrechti* Hausmann, 2003 was described from Ifrane in Morocco and the first record in the Iberian Peninsula was cited in MÜLLER (2010). Later, GUERRERO *et al.* (2012) added further records to the Iberian-Maghrebine region with new records in south-eastern Spain after studying the specimens labelled as *Idaea aversata* (Linnaeus, 1758) in several entomological collections.

Idaea lobaria Chrétien, 1909 was described from Biskra in Algeria and was tentatively placed into the *I. infirmaria* species-group including also the West-Mediterranean species *I. infirmaria* (Rambur, 1833) and *I. rhodogrammaria* (Püngeler, 1913), the East-Mediterranean *I. tineata* (Thierry-Mieg, 1931) and the Iberian endemism *I. saleri* Domínguez & Baixeras, 1992. The remaining species are distributed in North Africa (*I. alutacea* (Rungs, 1945)), and in the Canary Islands (*I. bacalladoi* (Pinker, 1974), *I. purpurariata* (Pinker, 1974) and *I. fuerteventurensis* (Pinker, 1974)). *Idaea lobaria* is distributed from the Levant to northern Morocco. This species in habitus is reminiscent of *I. fractilineata* (Zeller, 1847) and differs from the latter by several morphological and genital characters (HAUSMANN, 1994, 2004).

Material and methods

Adult female specimens were examined externally in order to evaluate possible differences and the female genitalia structures were dissected using standard procedures (HAUSMANN, 2001) with minor modifications. Female adults (Figure 1) and the morphology of genital structures (Figure 2) were studied using a Zeiss Stemi 508 stereomicroscope with a Zeiss Axiocam ICc5 digital camera. All specimens are deposited in the collection of the Department of Zoology and Physical Anthropology of Universidad de Murcia (Spain).

Results

In 2003, 2006 and 2016 the following 12 females were collected.

Material: MURCIA, Rambla Salada, Las Torres de Cotillas, 80 m, 30SXH50, 1 ♀, 26-VI-2003; 2 ♀♀, 8-VII-2003; 1 ♀, 1-X-2003; 1 ♀, 7-VII-2016 (Guerrero leg.); Río Mula, Embalse de los Rodeos, Las Torres de Cotillas, 120 m, 30SXH50, 1 ♀, 27-VI-2003 (Guerrero leg.); Rambla Salada, Cañada Hermosa, Murcia, 150 m, 30SXH40, 3 ♀♀, 29-VI-2006; 3 ♀♀, 17-VII-2006 (Guerrero leg.).

The specimens have been found between 80 and 150 m above sea-level in a gullied landscape in the center of the Murcia province, located within the thermo-mediterranean bioclimatic belt, and characterized by high summer temperatures and low and sporadic rainfall (mean annual precipitation of 300 mm).

Discussion

The south-east of the Iberian Peninsula presents large areas of arid habitats with many species and plant communities with closest relationships to those of North Africa. This area seems to have been under arid conditions for a long time, allowing the evolution and persistence of hundreds of plant species adapted to those environments, some of them endemics, and others shared with the semiarid Maghreb (Algeria and Morocco) (more information in ALCARAZ, 2017).

The sampled localities correspond to two semi-desert landscapes around two seasonal or sporadic water courses with some differential characteristics. The location around the Mula River is an area of badland ravines or “ramblas”, gypsum marls, with high dryness and erodibility and sparse vegetation. The most characteristic plant species are some of the Ibero-Africanisms adapted to this type of substrate, with resistance to high concentrations of calcium sulfates and high temperatures such as *Limonium*, *Tamarix*, *Ferula*, *Helianthemum*, *Fumana*, *Salsola*, *Suaeda*, *Arthrocnemum*, and other xero-halophilic genera. The other two localities corresponding to Rambla Salada are situated in a ravine of clay materials and little consolidated conglomerates, with high salinity which characterize

the type of the present vegetation. The reed (*Phragmites australis*) dominates depending on water depth, with other common halophilic plants occurring such as *Arthrocnemum*, *Suaeda*, *Limonium*, *Tamarix*, etc.

In North Africa, the species has been recorded from sea-level up to 1,500 m in Morocco (Anti-Atlas) inhabiting deserts, semi-deserts and oases.

Idaea lobaria can be considered as univoltine or bivoltine and it has been recorded from the end of June to early of October while the scarce North African records are from early May to early June. The Iberian data from October may refer to a partial second emergence. In the Levant, scarce data indicate also bivoltinism from early April to late June and from mid-October to mid-November.

Acknowledgements

This study was supported by the project on insect barcoding CGL2009-10906 of the Spanish Ministry of Research and Science and by Regional Excellence 19908-GERM-15 project of the Fundación Séneca (Murcia, Spain). Collecting permits were issued by Environmental Authority of Murcia.

BIBLIOGRAPHY

- ALCARAZ, F., 2017.— The arid Southeast.— In J. LOIDI (Ed.). *The Vegetation of the Iberian Peninsula, Plant and Vegetation*, **13**: 249-274. Springer International Publishing A G., Basel.
- GUERRERO, J. J., ORTIZ, A. S. & RUBIO, R. M., 2012.— On the distribution of *Idaea gelbrechti* Hausmann, 2003 in the Ibero-Maghrebian region (Geometridae: Sterrhinae).— *Nota lepidopterologica*, **35**: 193-196.
- HAUSMANN, A., 1994.— Notes on morphology of some little known species of the genus *Idaea* Treitschke, 1825 in the Middle East (Lepidoptera: Geometridae, Sterrhinae).— *Bonner Zoologische Beiträge*, **45**: 67-78.
- HAUSMANN, A., 2001.— Introduction. Archiearinae, Orthostixinae, Desmobathrinae, Alsophilinae, Geometrinae.— In A. HAUSMANN (Ed.). *The Geometrid moths of Europe*, **1**: 282 pp. Apollo Books, Stenstrup.
- HAUSMANN, A., 2004.— Sterrhinae.— In A. HAUSMANN (Ed.). *The Geometrid Moths of Europe*, **2**: 600 pp. Apollo Books, Stenstrup.
- MÜLLER, B., 2010.— *Idaea gelbrechti* Hausmann, 2003 new for Spain and Europe (Lepidoptera: Geometridae).— *SHILAP Revista de lepidopterología*, **38**(150): 159-163.
- SERRANO, J., LENCINA, J. L. & ANDÚJAR, A., 2003.— Distribution patterns of Iberian Carabidae (Insecta, Coleoptera).— *Graellsia*, **59**: 129-153.

J. J. G.

Department of Zoology and Physical Anthropology
Campus de Espinardo
University of Murcia
E-30100 Murcia
ESPAÑA / SPAIN
E-mail: juanjogf@um.es

M. G.

Gran Vía Escultor Salzillo, 7
E-30004 Murcia
ESPAÑA / SPAIN
E-mail: manuel.garre@fripozo.com

R. M. R.

Department of Zoology and Physical Anthropology
Campus de Espinardo
University of Murcia
E-30100 Murcia
ESPAÑA / SPAIN
E-mail: rmrubio@um.es

A. H.

Entomology Department
SNSB - Bavarian State Collection of Zoology
D-81247 Munich
ALEMANIA / GERMANY
E-mail: axel.hausmann@zsm.mwn.de

*A. S. O

Department of Zoology and Physical Anthropology
Campus de Espinardo
University of Murcia
E-30100 Murcia
ESPAÑA / SPAIN
E-mail: aortiz@um.es

*Autor para la correspondencia / *Corresponding author*

(Recibido para publicación / *Received for publication* 26-III-2018)

(Revisado y aceptado / *Revised and accepted* 25-IV-2018)

(Publicado / *Published* 30-IX-2018)



Figures 1-2.— 1. Female adult of *Idaea lobaria* Chrétien. 2. Female genitalia.